

VOLKSWAGEN

GROUP OF AMERICA



VW CREDIT, INC.

The Honorable Terry Canales
Chairman
Committee on Transportation
Texas House of Representatives
Austin, Texas 78768

September 18, 2020

RE: Interim Charge 2 - House Committee on Transportation, Notice of Formal Request for Information

Dear Chairman Canales,

Volkswagen Group of America (VWGoA) houses the U.S. operations of a worldwide family of brands including Audi, Bentley, Bugatti, Lamborghini and Volkswagen, as well as VW Credit and Electrify America. In the State of Texas alone, we are proud to support over 8,000 jobs and nearly \$1.5 billion in economic output. In addition, we maintain our VW/VCI South Central Region in Irving, port operations in Houston, and a Parts Distribution Center in Fort Worth.

VWGoA is pleased to submit comments to the Texas House Committee on Transportation on Interim Charge 2 in response to its Notice of Formal Request for Information issued on August 17, 2020. Interim Charge 2 seeks information on opportunities to reduce high rates of traffic accidents and fatalities on the states most dangerous roads and transportation corridors. VWGoA would like to take this opportunity to encourage Texas Department of Transportation (TxDOT) to consider deploying connected vehicle technology – vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I), and vehicle-to-pedestrian (V2P) communications, collectively known as “V2X” – to reduce traffic crashes and fatalities on Texas roads. We appreciate the opportunity to provide our perspective and look forward to working with the Committee as it examines this critical issue.

Response to Interim Charge 2

V2X technology has the potential to provide significant transportation safety and mobility benefits, on its own or when combined with in-vehicle sensors to support automated vehicles and other innovative applications such as platooning. V2X technology allows vehicles and infrastructure to send and receive signals so that a connected vehicle can know what another connected vehicle on the road is about to do. It also allows connected vehicles and road side units to communicate with each other. These communications can warn a driver if there are vulnerable road users in the area such as when approaching a work zone or school zone, or whether there is an imminent crash threat to prevent crashes. It can also broadcast safety information about conditions on the road ahead such as black ice. The USDOT concluded that providing drivers with timely warnings of impending crash situations could reduce the number and severity of unimpaired motor vehicle crashes by up to 80%.

Specific V2X safety applications that have been tested and developed to date include, curve speed warning, red light violation warning, stop sign assist, reduced speed in work zone warnings, public safety emergency communications with first responders, road weather response traffic information, and intelligent traffic signal prioritization.

With the ability to “see through barriers and around corners” connected vehicles provide a higher level of awareness and safety than vehicles equipped with sensors and cameras which require a direct line of sight to be effective. V2X technologies can be especially effective in reducing intersection crashes, the most costly crash type when measured in economic terms, accounting for approximately 22 percent of total motor vehicle crashes. V2X can also help reduce the growing number of pedestrian and bicycle fatalities.

Despite the ongoing debate over which V2X technology will emerge as the dominant technology, applications are available today that will give drivers more information about what’s going on outside the car ranging from traffic light information to driver assistance features that can inform drivers of impending road hazards or situations that could cause an accident.

Audi offered the first Vehicle to Infrastructure application in its Traffic Light Information (TLI), which provides a countdown in the instrument panel of how long a traffic light will remain red before turning green (called Time to Green—TTG). TLI can also offer recommended driving speeds to limit the number of red lights hit which also carries the benefit of helping conserve fuel. Connected to infrastructure as well, using TLI, cities will be able to aggregate data to see how long cars are waiting at lights and optimize signal timing for better traffic flow. This Traffic Light Information technology is active in a growing number of cities, including in Dallas and Houston.

Audi is also working to deploy V2X applications using 5G-powered cellular vehicle-to-everything (C-V2X) technologies that will be able to send messages near instantaneously to and from other vehicles, school zones and worksites. This technology has the potential to increase driver confidence on the road by providing warnings, or even having the car take autonomous action, when it senses an impending collision. In another example of applications that are ready for deployment, Audi announced in early 2020 that it has begun collaborating with the Virginia Department of Transportation, communications chipmaker Qualcomm and Virginia Tech on a pilot program around construction sites. This deployment demonstrates how safety benefits can be achieved from day one without the need to wait for broad fleet penetration. There are opportunities for similar deployments in other states using this technology to warn drivers when they are entering zones where vulnerable road users are present, such as work zones or school zones.

TxDOT is exploring the benefits of V2X technology in a number of use cases, including in a freight-focused research project through a USDOT Connected Freight Corridors ATCMTD grant. Under the grant, TxDOT will expand the current I-35 Central Texas Traveler Information during construction projects to include the use of connected vehicle messaging technologies for the dissemination of work zone information. The project will provide an opportunity to communicate in-vehicle information on actual travel times, traffic speeds, and queues to commercial vehicle operators. We are encouraged that this research and testing around V2X in commercial vehicles could be applied to passenger vehicle deployments as well. Finally, the automated vehicle testing underway in a number of Texas cities provides local governments with opportunities to start to prepare for this V2X future by deploying connectivity to improve road safety in their cities.

Sincerely,

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